Office Action Summary	Application No.	Applicant(s)	
	10/577,627	HART ET AL.	
	Examiner	Art Unit	
	ZACHARY SKELDING	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2009 and 11 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-23 and 37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-23 and 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment and remarks filed June 23, 2009 and December 11, 2009 are acknowledged.

   Claims 22-23 and 37 are pending.

   Claims 21-23 and 37 are under examination.

2. The prior objections and rejections of record can be found in the Office Action mailed December 23, 2009.

   The prior objections to the specification are withdrawn in view of applicant's amendments filed June 23, 2009 and December 11, 2009. In particular, it is noted that applicant's deletion of Figures 2 and 4 and the accompanying Figure 2 and 4 descriptions in conjunction with their assertion that no new matter has been added with said amendment is sufficient to overcome the prior objections related to these aspects of the instant specification.

   The prior rejection under 35 U.S.C. § 112, 1st paragraph, written description has been withdrawn in view of applicant's amendment to the claims.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

   > The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 21-23 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, essentially for the reasons of record as put forth in the Office Action mailed December 23, 2008 and for the reasons further explained below with respect to the newly recited limitations concerning "diagnosing psoriasis in a subject...at risk of developing psoriasis."

   Applicant argues the instant claims are enabled because antibodies to CMRF-35, CD4 and CXCR3 are commercially available and because the claims as amended recite a method for diagnosing psoriasis rather than a method for measuring the immunological potential of a subject.

   Applicant's argument has been considered, but has not been found convincing, essentially for the reasons of record as put forth in the Office Action mailed December 23, 2008.

   The CMRF-35 family of polypeptides

Applicant's argument about the commercial availability of antibodies to CMRF-35, CD4 and CXCR3 is noted. However, the availability of antibodies capable of detecting CMRF-35, CD4 and CXCR3 expression of T cells in general (versus the particular species of CMRF-35 antibody that would have been required to practice the claim under consideration in the first action on the merits mailed December 23, 2008) is not an issue with the present claims because even if, e.g., anti-CMRF-35 antibodies were not commercially available as of applicant's date of invention the polypeptide sequences of the various CMRF-35 species (CMRF-35A, CMRF-35A2, CMRF-35A3...CMRF-35H) were known (see, e.g., Speckman et al., Hum Genet. 2003 Jan;112(1):34-41, cited previously) and given these sequences one of ordinary skill in the art could produce antibodies to any one of the CMRF-35 species without resorting to undue experimentation.

That said, one issue touched upon in the previous Office Action and not adequately addressed by either applicant's amendment to the claims or applicant's arguments is that the data of the instant specification appears to have been generated with the "CMRF-35 mAb" antibody which specifically binds to CMRF-35 species, CMRF-35A and CMRF-35H, and defines a sub-population of T-cells that is absent from the peripheral blood of psoriasis patients but are not decreased in a wide variety of other diseases (see the instant specification at page 2, last paragraph to page 4, last paragraph and page 99, 1st paragraph).

However, as stated in the previous Office Action at page 8, 3rd-4th paragraphs in the context of the previous claims:

"'CMRF-35'…encompasses a family of CMRF-35 molecules including CMRF-35A, CMRF-35A2, CMRF-35A3, CMRF-35A4, CMRF-35A6 and CMRF-35H (see instant specification page 2, 2nd and 3rd paragraphs and page 4, 3rd paragraph as well as Speckman, ibid).

The instant specification does not provide teachings as to the significance of the CMRF-35A2, CMRF-35A3, CMRF-35A4, CMRF-35A6 with respect to the 'immunological potential of a subject'. Moreover, the instant specification provides no direction or guidance with respect to the expression of the CMRF-35 family members other than CMRF-35A and CMRF-35H on CD4+CD45RO+ cells. Thus, the instant specification cannot be said to enable the claimed method wherein the CMRF-35 being measured is CMRF-35A2, CMRF-35A3, CMRF-35A4, CMRF-35A6…."

As was the case with the previous claims, the current claims, given their broadest reasonable interpretation consistent with the instant specification encompass in their breadth determining the number of T cells expressing any one of the CMRF-35 family members or any combination thereof, measuring the same type of T cells in a normal subject, and then comparing the two wherein a reduction in the number of T cells expressing the CMRF-35 cell surface marker(s) in the subject undergoing the psoriasis diagnosis indicates that the subject has or is at risk of developing psoriasis.

However, as in the previous rejection of record the instant specification provides no direction or guidance with respect to the expression of the CMRF-35 family members other than CMRF-35A and CMRF-35H on CD4+CD45RO+ cells. Thus, the instant specification cannot be said to enable the claimed method wherein the CMRF-35 being measured is CMRF-35A2, CMRF-35A3, CMRF-35A4, CMRF-35A6, and it is not a matter of routine experimentation to determine if T cells expressing any one of these markers or any combination of markers are decreased in psoriasis patients relative to normal.

At risk of developing psoriasis

Additionally, the newly amended claims recite the new limitation "a method for diagnosing psoriasis in a subject....wherein...indicates that the subject has or is at risk of developing psoriasis."

The instant specification discloses at page 5, 1st paragraph, "[o]f the CD4+ sub-populations of T-cells, the CMRF-35++ CD45RO+ and more particularly, CMRF-35++ CD45RO+ CXCR3+ sub-populations are particularly important. For example, in psoriasis, these populations are absent from peripheral blood. This indicates a role of these sub-populations of T-cells in psoriasis and potentially other inflammatory conditions or conditions which provoke or which are exacerbated by an immunological response."

However, without knowing ***why*** these CD4, CMRF-35, CXCR3 expressing T cells are decreased in psoriasis patients it would not be possible for the skilled artisan to reliably extrapolate from the observation that CMRF-35, CD45RO, and CXCR3 expressing T cells are absent in a patient having psoriasis to the levels of such T cells in a patient at risk of developing psoriasis.

For example, the instant specification shows CD4+CMRF-35+ T cells produce more IFN-γ than CD4+CMRF-35- cells both in response to T cell mitogens or CD3/CD28 and in a mixed lymphocyte reaction with HLA-DR+ Lin- dendritic cells as stimulators, and INF-γ production is a hallmark of psoriasis (see, e.g., Gniadecki, in particular page 73 right column, 1st-3rd paragraph). Given these teachings how would the skilled artisan extrapolate from the decreased levels of peripheral blood CD4+CMRF-35+ CXCR3+ T-cells in a patient having psoriasis to a patient at risk of having psoriasis? Would the skilled artisan expect the patient at risk of psoriasis to have similar low levels of peripheral blood CD4+CMRF-35+ CXCR3+ T-cells or would they think that the decreased level of these cells in frank psoriasis is a consequence of the immune systems attempt to suppress disease causing cells in which case this population may be elevated in a patient at risk of developing psoriasis?

It is noted that the teachings of the specification at page 13, 1st paragraph are consistent with this uncertainty in the art (emphasis added):

"Accordingly, another aspect of the present invention ***contemplates a method of identifying a potential or risk of a particular condition being present or developing*** said method

comprising collecting a sample of blood and subjecting the sample to surface marker discrimination ***means to identify the level, presence or absence of a CD4+ T-cell population*** selected from:

CMRF-35.sup.++ CD45RO.sup.+;
CMRF-35.sup.+ CD45RO.sup.+;
CMRF-35.sup.- CD45RO.sup.+
CMRF-35.sup.+ CD45RO.sup.-; and
CMRF-35.sup.- CD45RO.sup.- T-cells;

wherein ***an alteration in the levels, presence or absence of one or more of the above T-cell populations is indicative of a disease condition or the propensity for a disease condition to develop***."

Thus, before being able to practice the invention as claimed the skilled artisan would first have to begin discovering which, if any, population of CD4, CMRF-35, CXCR3 T cells are decreased in a patient at risk of developing psoriasis, in the absence of any guidance from the specification or art, which is not a matter of routine experimentation.

Conclusion

The instant claims essentially call for trial and error by the skilled artisan to begin discovering how to make and use the claimed invention without assisting the skilled artisan in such an endeavor, which is insufficient to constitute adequate enablement.

As put forth in Rasmusson v. SmithKline Beecham Corp., 75 USPQ2d 1297-1303 (CAFC 2005), "[i]f mere plausibility were the test for enablement under section 112, applicants could obtain patent rights to 'inventions' consisting of little more than respectable guesses as to the likelihood of their success. When one of the guesses later proved true, the 'inventor' would be rewarded the spoils instead of the party who demonstrated that the method actually worked. That scenario is not consistent with the statutory requirement that the inventor enable an invention rather than merely proposing an unproved hypothesis."

Similarly, a patent is granted for a completed invention, not the general suggestion of an idea and how that idea might be developed into the claimed invention. In the decision of Genentech, Inc, v. Novo Nordisk, 42 USPQ 2d 1001,(CAFC 1997), the court held: "[p]atent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable" and that "[t]ossing out the mere germ of an idea does not constitute enabling disclosure". Further, "[i]t is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement".

The instant specification is not enabling because one cannot follow the guidance presented therein and practice the claimed method without first making a substantial inventive contribution.

5. No claim is allowed.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZACHARY SKELDING whose telephone number is (571)272-9033. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on 571-272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachary Skelding/
Examiner, Art Unit 1644